Global Technology Competition Enters the "High-Tech Cold War Era" Post-Print

Authors: Wang Wen

Date: 2024-03-27T00:00:00+00:00

Abstract

In the third decade of the 21st century, global technological competition is intensifying across all corners of the globe with unprecedented fervor. Major economies, including the United States, regard technological transformation as a foundational core capability for safeguarding national security, striving to establish technological leadership and consistency while resorting to a "high-tech Cold War" approach to suppress non-Western nations. Consequently, China's objective of building a world-leading science and technology powerhouse and achieving the goal articulated in the 20th National Congress report— "by 2035 ···attaining high-level self-reliance and strength in science and technology, and joining the front ranks of innovative nations" —has become increasingly challenging. Accordingly, endeavors to break the impasse, reconstruct a new paradigm, lead transformative changes, and rejuvenate the overall landscape have become imperative measures for China to overcome the current "high-tech Cold War" .

Full Text

Preamble

Citation Format: Wang Wen. Global Technological Competition Enters the "High-Tech Cold War Era" . *Bulletin of Chinese Academy of Sciences*, 2024, 39(1): 112-120, doi: 10.16418/j.issn.1000-3045.20231108002.

Wang W. Global technological competition enters high-tech cold war era. *Bulletin of Chinese Academy of Sciences*, 2024, 39(1): 112-120, doi: 10.16418/j.issn.1000-3045.20231108002. (in Chinese)

Abstract

In the third decade of the 21st century, global technological competition is spreading at an unprecedented intensity to every corner of the world. Major

economies, including the United States, view technological transformation as a fundamental core capability for maintaining national security, striving to build leadership and consistency in the technological domain, and resorting to a "high-tech cold war" approach to suppress non-Western countries. In the foreseeable future, achieving China' s goal of building a strong technological nation and realizing the objective set forth in the 20th Party Congress report— "by 2035 ···achieve high-level self-reliance and strength in science and technology and enter the forefront of innovative countries" —has become more challenging. In this context, efforts to break through the current stalemate, reconstruct a new landscape, lead transformations, and revitalize the overall situation have become necessary measures for China to break through the current "high-tech cold war."

Keywords: technological change, high-tech, cold war, Western countries, technological suppression, technological power

Author Information

Wang Wen is Executive Dean of the Chongyang Institute for Financial Studies, Vice Dean and Distinguished Professor of the Silk Road School, and Executive Director of the China-US Cultural Exchange Research Center at Renmin University of China. He also serves as Deputy Director of the Youth Editorial Committee for *Bulletin of Chinese Academy of Sciences*. His research focuses on global governance, green finance, and major power relations. E-mail: wangwen2013@ruc.edu.cn

Responsible Editor: Yue Lingsheng

On August 9, 2023, U.S. President Joe Biden signed an executive order on technology investment, restricting American investment and transactions with China in sensitive high-tech sectors including semiconductors, quantum computing, and artificial intelligence. This move further intensified the "Cold War" character of America' s recent high-tech suppression and containment of China [1]. The U.S. policy of decoupling from China' s high-tech sector reflects the unprecedented white-hot intensity of global technological competition in the third decade of the 21st century. This competition, spreading across the globe with unparalleled ferocity, will determine the attribution of new corporate dividends, the emergence of new generations of technological geniuses, the success of regional development, the outcome of a new round of great power competition, and even the direction of a new phase of civilization' s evolution. Unlike the three previous technological revolutions of the past 300-plus years, major economies now view technological transformation as a fundamental core capability for maintaining national security and are rebuilding their national security strategies accordingly. The United States is making every effort to build Western leadership and behavioral consistency in technology, resorting to a "high-tech cold war" to suppress non-Western countries—precisely based on the logic that technology determines national security.

China does not fear the "high-tech cold war" and has the confidence to gradually

move beyond its "follower" role in high technology, joining the ranks of "parallel runners" and even becoming a "pathfinder" in some areas. To this end, it is necessary to analyze the evolutionary logic of the fourth technological revolution and dissect the core content of Western technological suppression against China. Only by clearly understanding the deep logic of the global technological revolution and Western technological strategies can we appreciate the significance of China' s continued push to become a technological powerhouse. Avoiding comprehensive technological suppression by the West is no easy task. China must continuously deepen systemic reforms in institutional innovation, structural reform, talent incentives, and financial support, striving to break through the current situation, reconstruct a new landscape, lead transformations, and revitalize the overall situation, thereby truly becoming a "pathfinder" in global technological competition and continuously contributing to national rejuvenation.

1. The Next Decade: The Fourth Technological Revolution' s Effects Will Be Unleashed

The history of the rise and fall of modern great powers over the past 500 years is essentially a history of whether these nations could seize technological waves and drive industrial development and national strength. Britain seized the historical opportunity of the 18th-century mechanization revolution, achieving the glory of an empire on which the sun never set. The United States grasped the waves of 19th-century electrification and 20th-century informatization, laying a solid foundation for its status as the world's largest economy for over a century and its post-WWII hegemony. Behind the white-hot global technological competition lies policymakers' profound understanding of the linear relationship between technological innovation and great power rise.

From the perspective of historical cycles of technological change and economic development, we are currently in a special transitional period from the "depression" at the end of the third technological revolution to the "recovery" emerging at the front end of the fourth. According to the Kondratiev wave theory' s 50-60 year cyclical characteristics, where economies experience "recovery-prosperity-recession-depression"cycles alongside technological change, the impact of the previous wave of technological innovation on the current economy can be roughly divided into: recovery period (1980s-early 1990s), prosperity period (around 2000), recession period (around 2015), and depression period (post-2015). Currently, the global "Internet+" wave has receded, asset prices have fallen across the board, real estate remains sluggish, and the pandemic has disrupted normal global economic and trade operations, leaving the world economy facing its most sluggish moment since WWII. Humanity urgently needs to find new technological transformations to generate the next round of economic dividends.

Regarding the impact of the new technological revolution, also known as the fourth global technological revolution, Klaus Schwab, founder and executive chairman of the World Economic Forum in Davos, provides a classic analysis

in his book *The Fourth Industrial Revolution: Transforming Power*: "We are now experiencing the fourth industrial revolution, which is no longer limited to a specific field···It is innovation across entire systems, highly disruptive···This technological revolution not only changes what we work on and how we work, but also changes ourselves, our lives, and how we view the world···The fourth global technological revolution lets everyone see hope" [2].

Building upon the 18th-century mechanization revolution, 19th-century electrification revolution, and 20th-century informatization revolution, the global fourth technological revolution since the 21st century has demonstrated significantly more three-dimensional, diversified, and leapfrogging innovation and transformation. Technological changes aimed at expanding human living space, such as space and marine technology; global energy technology transformations aimed at zero-carbon, clean, efficient, and sustainable development; life science technology changes represented by brain-computer interfaces, gene editing, regenerative medicine, and synthetic biology; manufacturing equipment technology changes oriented toward new materials, digitalization, and machine substitution; and especially information technology changes focusing on artificial intelligence, mobile communications, the Internet of Things, blockchain, quantum information, high-end chips, and the metaverse—all are quietly transforming industrial structures, economic landscapes, and national strength.

Precisely because the effects of the fourth global technological revolution will be unleashed, all countries recognize the critical importance of participating in this new round of technological revolution. Developed countries hope to maintain their leading positions through inherent technological advantages, while developing countries seek to achieve leapfrog improvements in comprehensive strength through technological revolution-driven industrial upgrading. Unlike in modern history when some national decision-makers resisted new technological revolutions, the lessons of rise and fall over centuries now ring like alarm bells in the minds of all contemporary policymakers. The nation that seizes the high ground of technological revolution will likely occupy the high ground of global value chains and gain first-mover advantage in future national strength competition [3]. This explains why, despite the global economy, trade, and investment growth rates falling into low-speed or even negative growth in recent years, the pace of technological transformation has not slowed. From 2013-2022, global industrial R&D investment maintained stable growth of around 4.6%, far exceeding the 同期 economic growth rate (3.2%).

The World Intellectual Property Organization (WIPO) released the *Global Innovation Index 2022: What is the Future of Innovation-Driven Growth?*, which measured innovation progress across 132 economies and found that despite disruptions from COVID-19, climate change, ecological deterioration, and various geopolitical conflicts since 2020, R&D and related investments driving global innovation activities continued to flourish in 2021—almost all economies showed active innovation performance above expectations. In 2021, global top corporate R&D expenditures exceeded pre-pandemic 2019 levels, reaching over $900

billion. Scientific paper publications worldwide exceeded 2 million for the first time in 2021, contrary to anticipated declines. Venture capital transactions surged by 46%, rivaling record levels from the late 1990s internet boom [4].

WIPO' s 2023 PCT (Patent Cooperation Treaty) International Patent Report shows that PCT applications in 2022 increased by 0.3% year-on-year, reaching a total of 278,000—the highest single-year total on record. Among the top 10 technology fields by PCT application volume in 2022, eight showed positive growth, with digital communications (+8.7%) and computer technology (+8.1%) growing fastest, followed by semiconductors (+6.8%), biotechnology (+6.7%), and electrical machinery (+6.1%).

As technology investment continues to accumulate, more and more technology experts believe that in the next decade, new rounds of technologies such as quantum computing, controllable nuclear fusion, and artificial intelligence will achieve disruptive iterative breakthroughs. Each new technology-driven explosive breakthrough and exponential growth in new industries will be accompanied by shifts in national economic growth drivers, social evolution transformations, and adjustments to the international political landscape [5]. This explains why the Biden administration has repeatedly emphasized that "the next 10 years will be decisive for America' s destiny." Accordingly, even amid relatively sluggish medium-term economic expectations, countries continue to invest in R&D, particularly in information technology represented by 5G and 6G communications, as well as hard technology fields like artificial intelligence, aerospace, biomedicine, life sciences, quantum technology, and the metaverse, competing for strategic high ground to win the future.

2. The Securitization of Global Technological Competition

In recent years, global technological R&D growth has far outpaced economic, trade, and investment growth, precisely because of the deep logic that technology serves as the primary driver of national power. Unlike the previous three technological revolutions, major economies now view technological transformation as a fundamental core capability for maintaining national security, using this logic as a starting point to rebuild national security strategies. For example, in recent years, the United States released a new National Security Strategy, strengthening supply chain security, frontier technology, and STEM (science, technology, engineering, mathematics) talent deployment. Japan revised three important documents closely related to national strategy—the National Defense Program Guidelines, National Security Strategy, and Medium-Term Defense Force Buildup Plan—highlighting the strategic role of cutting-edge technology. The EU released its "Strategic Compass," making investment in technology and industrial bases one of its security pillars. Germany launched its first National Security Strategy since WWII, extending the concept of security to technology and other fields.

Clearly, the West equates hegemony maintenance with technological security.

Based on this consideration, Western countries led by the United States are making every effort to build "dual-chain" leadership and consistency in technology: at the material level, attempting to reconstruct the "value chain" of production, supply, sales, and upgrading in global high-tech fields; at the conceptual level, strengthening the "ideological chain" with Western values as its core and behavioral consistency or similarity [6]. To this end, the West has adopted two major measures.

2.1 Intensive Introduction of Technology Strategies to Enhance Domestic Strength

In recent years, the United States has unprecedentedly and frequently introduced technology strategies and investment policies. In June 2021, the U.S. Senate passed the *U.S. Innovation and Competition Act of 2021*, representing the largest investment in technological innovation and production in decades (approximately $250 billion), aimed at preserving America' s technological hegemony. In August 2022, President Biden signed the 1,054-page *CHIPS and Science Act of 2022* at the White House, authorizing approximately $280 billion in total investment, marking the formal implementation of high-subsidy legislation targeting a single industry. The act contains an extremely special clause—as long as chip companies accept U.S. subsidies, they must manufacture chips on U.S. soil. Additionally, the act allocates $10 billion to build 20 technology research centers and invests $200 billion to strengthen research and exploration in high-tech fields. In May 2023, the White House announced a series of new initiatives around American AI use and development, and updated and released the *National AI R&D Strategic Plan*, making long-term investments in fundamental and responsible AI research.

The EU has also moved swiftly in strategic planning for "technological sovereignty." In February 2020, the European Commission successively promoted multiple technology strategy reports, including *Shaping Europe' s Digital Future*, *EU Data Strategy*, and *White Paper on Artificial Intelligence*, planning to invest a budget of 100 billion euros to enhance R&D in digital technology and consolidate Europe' s position in the global digital economy. In July 2022, the Commission passed the *European Innovation Agenda* strategic document, aiming to push European countries to seize high ground in global technological innovation.

Japan shares this sense of urgency. In 2020, the Japanese government formulated or revised a series of documents related to technological innovation, including the *Basic Law on Science and Technology* and *Comprehensive Strategy on Science, Technology and Innovation 2020*, increasing funding and policy support to comprehensively promote societal digitalization and intelligent transformation, ensuring Japan keeps pace amid intensifying global competition in frontier technologies like AI, biomedicine, 6G communications, quantum technology, space exploration, and new materials, while consolidating its international market position in technological innovation.

2.2 Strengthening Western Value Alliances and Launching a "High-Tech Cold War" Against Competitors

As *The New York Times* stated in a July 2023 feature, America' s chip blockade against China is tantamount to an act of war [7]. In recent years, to counter the rapid rise of emerging economies including China in the technological domain, the United States has accelerated its pace in launching a "high-tech cold war." The U.S. has led efforts to coordinate emerging technology issues and establish the U.S.-EU Trade and Technology Council (TTC) as a permanent platform for international trade and technology, holding four consecutive meetings in September 2021, May and December 2022, and May 2023 around the competition for high-tech standards, aiming to counter the rising influence of so-called "non-market economies."

Additionally, the United States has adopted a "small yard, high fence" strategy to build a "high-tech alliance," attempting to comprehensively block technological exports to competitors. This strategy has been encouraged by the business community. For example, in May 2021, technology giants and chip manufacturers from 64 countries including the U.S., UK, France, and Japan formed the "Semiconductors in America Coalition" (SIAC) to pressure the White House to implement chip subsidies. In March 2022, the "Chip 4" alliance was established with the United States, Japan, South Korea, and Taiwan forming a closed production loop, attempting to exclude Chinese enterprises. In July 2022, U.S. Treasury Secretary Janet Yellen proposed the concept of "friend-shoring," emphasizing the need to reduce dependence on China and build new cross-national value chains for high-tech products with "trusted friendly countries." In April 2022, the U.S. claimed to build an "open, free, global, interoperable, reliable, and secure internet," releasing the *Declaration for the Future of the Internet* with 60 global partners, aiming to create a U.S.-centered "digital alliance" or technological version of NATO. In August 2023, President Biden signed an executive order establishing an outbound investment review mechanism, restricting U.S. entities from investing in China' s semiconductor and microelectronics, quantum information technology, and AI sectors, further intensifying the "Cold War" color of high-tech containment against China.

Simultaneously, the U.S. has selectively adjusted its relationships with some seemingly friendly emerging economies. For example, it has wooed ASEAN, attempting to strengthen technological value chain cooperation between the U.S. and ASEAN; it has made all-out efforts to woo India, attempting to build a technological encirclement against China. In short, Western countries led by the United States are fully engaged in a strategy of enhancing domestic technological strength while building high technological walls externally—echoing the Cold War logic of dividing into two camps and attempting to defeat the opponent. This reflects not only the current turmoil in global economic development and political order but also the white-hot technological competition against the backdrop of increasingly fierce great power games.

3. China Must Have Technological Confidence

Regarding U.S. technological suppression, many Chinese people feel pessimistic about future prospects. Some scholars frequently cite the example that only one Chinese person has won a Nobel Prize in natural sciences for research conducted domestically to argue that Chinese technology lags far behind the West, especially the United States. However, history shows that Nobel Prize recognition focuses on basic research and has a certain lag effect, not fully reflecting a country' s current technological development status. Before the 1940s, the United States, already the world' s largest industrial and economic power for decades, still trailed far behind European countries in Nobel natural science awards. As a country with the world' s largest industrial output and second-largest economy, China' s current shortage of Nobel laureates cannot fully and objectively reflect its true technological strength.

In fact, as the well-known U.S. think tank Eurasia Group points out, "The costs of decoupling may exceed the benefits. It will not weaken China' s technology sector but will only slow China down at the expense of harming U.S. companies ···One way for the U.S.-China technology competition to acquire a Cold War atmosphere is to create a bipolar world where Chinese technology dominates Asian and African countries but is isolated from the West"[9]. The sense of crisis in the United States has sharply increased, leading to joint Western strategies to contain China, which itself demonstrates China' s real and remarkable progress in the fourth technological revolution.

In 2016, China' s *National Innovation-Driven Development Strategy Outline* proposed a "three-step" strategic plan for technological rise: after entering the ranks of innovative countries by 2020, to become among the forefront of innovative countries by 2030, and to build a world science and technology innovation powerhouse by 2050. The 20th Party Congress report clearly stated: "By 2035··· achieve high-level self-reliance and strength in science and technology and enter the forefront of innovative countries."These development strategies are gradually becoming reality.

In recent years, China has successively become the world' s largest producer and exporter of technology products, the country with the most annual scientific papers published in natural sciences, and the country with the most technology patent applications. In 2022, China newly became the country with the highest "Nature Index."China's R&D funding investment has ranked second in the world for many years. These indicators all confirm China' s current status and future potential in technological innovation, representing new strategic opportunities for China' s technological development [10].

A 2021 joint research report by renowned scholars from Harvard University and Cambridge University, *The Great Tech Rivalry: China vs. the U.S. in the 21st Century*, points out that in the next decade, even if it does not surpass the United States, China will approach the U.S. in fields including quantum information, semiconductors, biotechnology, artificial intelligence, 5G communications, and

clean energy. The report also states that China' s rapid technological rise poses a challenge to U.S. technological advantages: "In some areas, China has already surpassed the United States; in other areas, based on current trends, China will surpass the United States within the next decade" [11].

Driven by innovation strategies, China has achieved numerous remarkable technological accomplishments in recent years. Chinese supercomputers have repeatedly won the "world championship" ; manned spaceflight and lunar exploration projects have yielded important results in the "Tiangong,""Shenzhou,""Chang'e," and "Long March" series; the Beidou Navigation System has officially entered a new era of global network services; nano-catalysis, metal nanostructured materials, iron-based superconducting materials, high-temperature gas-cooled reactor nuclear power, and other fields are entering the world' s advanced ranks; major scientific research infrastructure such as spallation neutron sources, fully superconducting tokamak nuclear fusion devices, and the 500-meter aperture spherical radio telescope have laid important material foundations for China to conduct world-class scientific experiments.

Additionally, a new coupling pattern is gradually forming where China's finance, technology, and industry mutually shape and reinforce each other in a virtuous cycle. Financial support for technological innovation is growing stronger, more precise, and more widespread. As of June 2023, Beijing Stock Exchange listed companies (204) had a total market value exceeding 266.8 billion yuan; Shanghai Stock Exchange STAR Market listed companies (542) had a total market value reaching 6.72 trillion yuan. Notably, loans to high-tech manufacturing, technology SMEs, and "specialized, refined, special, and new" enterprises have maintained growth rates above 20% for three consecutive years, with high-tech manufacturing medium- and long-term loans growing by 41.5% year-on-year.

International technological data also show strong Chinese technological progress. In 2020, China' s high-tech product exports reached $757.7 billion, up 6% year-on-year, ranking 4th globally; high-tech manufacturing accounted for 48.1% of total manufacturing, up 1 percentage point from 2018, ranking 14th globally; intellectual property income reached $8.9 billion, up 34% year-on-year. In 2022, China' s high-tech product trade exports grew by 4.0% year-on-year again. As evaluated in the 20th Party Congress report: "Basic research and original innovation have been continuously strengthened, some key core technologies have achieved breakthroughs, strategic emerging industries have grown and strengthened, and major achievements have been made in manned spaceflight, lunar and Mars exploration, deep-sea and deep-earth exploration, supercomputers, satellite navigation, quantum information, nuclear power technology, large aircraft manufacturing, biomedicine, etc., entering the ranks of innovative countries."

Undeniably, the United States still plays an important "pathfinder" role in this round of great power technological competition, but the balance of technological transformation power is tilting toward emerging economies, especially Asia. U.S. technological progress indicators across multiple fields show a long-term slowing trend, mainly in semiconductor performance, battery prices, renewable energy

costs (except wind), and biopharmaceutical R&D. WIPO' s *Global Innovation Index 2022* points out that the world' s top 100 science and technology (S&T) clusters are concentrated in three regions—North America, Europe, and Asia —especially in two countries: China and the United States (both having 21 clusters in the top 100, with China having the same number as the U.S. for the first time), followed by Germany with 10 clusters and Japan with 5. Among the top five global S&T clusters (1 in Japan, 2 in China, 1 in South Korea, 1 in the U.S.), four are located in East Asia.

Based on these rapidly developing data, objective assessment of the latest status of China' s technological development becomes crucial. While we should realistically acknowledge that some core technologies in China still lag behind the U.S., that hard technology transformation still faces "bottlenecks," and that there remains a relative shortage of high-end technological talent, we also need technological confidence to see the historic, comprehensive major changes occurring in Chinese technology in recent years.

4. How to Break the "High-Tech New Cold War" Stalemate

As General Secretary Xi Jinping pointed out in his speech at the 19th Academician Conference of the Chinese Academy of Sciences and the 14th Academician Conference of the Chinese Academy of Engineering, "We have ushered in a historic convergence period where a new round of global technological revolution and industrial transformation coincides with China's transformation of its development model, facing both a once-in-a-lifetime historical opportunity and the severe challenge of widening gaps." In the foreseeable future of a "high-tech new cold war," building a strong technological nation and achieving the 20th Party Congress report' s goal of "by 2035···achieve high-level self-reliance and strength in science and technology and enter the forefront of innovative countries" has become more challenging. In this regard, efforts to break through the current situation, reconstruct a new landscape, lead transformations, and revitalize the overall situation have become necessary measures to break through the current "high-tech new cold war" [12].

(1) Break Through the Current Situation: Quickly emerge from the post-pandemic trauma, great power confrontation, and economic downturn stalemate to solve comprehensive bottleneck problems in China' s current technological development. In terms of post-pandemic recovery, China' s economic development still faces comprehensive impacts from three years of pandemic trauma. Solving insufficient innovation-driven capacity still requires new momentum from institutional openness and mechanism reform. For instance, we need to "handle special matters specially" by introducing various high-tech talents globally; we need to combine technological investment with a unified domestic large market; we need to stimulate societal and market expectations and confidence in technology investment; and we need to promote factor market reforms and circulation to enhance per capita labor productivity. In terms of great power games, China needs to find breakthroughs in the Western encirclement through open innova-

tion, continuing to seek cross-border cooperation opportunities while 正视差距 and identifying weaknesses; we must deeply cultivate core fields such as core AI algorithms, photoelectric chips, and photolithography machines, leveraging the long-standing systemic advantage of "concentrating resources to accomplish major tasks" to solve "bottleneck" technologies and forge "trump card" technologies; and we must strengthen national strategic scientific and technological forces concerning national security and people' s welfare [13]. In terms of economic development, we must increase counter-cyclical adjustment efforts to ensure the proportion of fiscal investment in technology does not slow down; we must pay greater attention to the principal role of enterprises, especially strengthening confidence in corporate R&D investment.

(2) Reconstruct a New Landscape: Optimize the structure of technological investment and promote the transformation of technological development into a core supporting force for forming the national "dual circulation" new pattern. China needs to fully unleash the potential of insufficient supply and circulation of talent, capital, and information, addressing the long-standing problem of numerous scientific and technological achievements remaining in "laboratories" and "patent books" by remedying deficiencies in mechanisms for technology application, evaluation, licensing, transfer, confirmation, and benefit distribution, thereby improving the efficiency of financial services for technological innovation. More importantly, China should vigorously build a "production-education-people-research" collaborative innovation system, encouraging research institutions to fully consider market needs, encouraging local R&D to fully serve national interests, encouraging developed regions to fully support underdeveloped regions, encouraging civilian inventions while fully protecting patents, thereby forming a new multi-level, multi-regional, and multi-domain technological innovation atmosphere. Additionally, through increased "new infrastructure" transformation, we can expand new industries and accelerate the efficiency of technology market conversion.

(3) Lead Transformations: Rely on multilateral cooperation initiatives and related platforms such as the Belt and Road to promote open, cooperative, and win-win technological collaboration with more countries. In response to the current selfish and conservative trends in frontier scientific and technological innovation in the West, China can leverage its relative advantages to break through radical protectionism, isolationism, exclusionism, and populism in technology, increasing the frequency and scope of sharing high-tech with more developing countries to resolve and hedge against Western suppression. Simultaneously, we must form a mechanism for capturing cross-border technology needs, collecting technological intelligence in real-time, and multi-participatory, bottom-up tracking of cutting-edge technology information. Additionally, China can increase efforts in building new cross-border platforms such as offshore innovation centers and international technology incubation platforms, dynamically adjusting and optimizing technology policies with special policies to continuously attract outstanding talents, promoting global high-end talent and cutting-edge technology to come to China, and building a world-leading new science center serving

win-win development for all countries.

(4) Revitalize the Overall Situation: Accelerate the improvement of digital economy, digital life, and digital national governance methods to achieve the digital construction of the path to a strong socialist country with Chinese characteristics. Strengthening the breadth and precision of frontier technology' s social application, and better serving Chinese-characteristic social governance through 催生新技术、新产业、新市场, has become increasingly important. Especially in using new technology scenarios to drive the creation of a series of world-leading developed cities in daily post-modern social scenarios, demonstrating the superiority of Chinese-style modernization through exemplary and benchmark future urbanization processes. In this way, China' s goal of "technological power" serving society and individuals will naturally become soft power that impresses other nations.

In conclusion, facing the prospect of a global "high-tech cold war," China need not be discouraged. Instead, it should seize the new historical opportunity period, develop 过硬技术、志气、精神和实力, open a new era of high-tech featuring interconnected coexistence of all things based on the eruption of the new technological revolution, promote institutional innovation in science and technology, and ultimately serve the great rejuvenation of the Chinese nation and promote the building of a community with a shared future for mankind.

References

1. Segal A. The Coming Tech Cold War With China. (2020-09-09). https://www.foreignaffairs.com/articles/north-america/2020-09-09/coming-tech-cold-war-china.
2. Schwab K. *The Fourth Industrial Revolution: Transforming Power*. Beijing: CITIC Press, 2016: 5. (in Chinese)
3. International Institute of Technology and Economics, Development Research Center of the State Council, Xi' an Zhongke Hard Technology Innovation Research Institute. *Hard Technology: The Frontier of Great Power Competition*. Beijing: Renmin University Press, 2021: 59-62. (in Chinese)
4. WIPO. *Global Innovation Index 2022 Report: What is the Future of Innovation-Driven Growth?* (2023-02-08). https://www.wipo.int/global_{{{innovation}}}_{{index}}}/e
5. Floridi L. *The Fourth Revolution: How the Infosphere is Reshaping Human Reality*. Oxford: Oxford University Press, 2014.
6. Wang C G. The action and influence of the United States and other Western countries in the field of high-tech. *China Information Security*, 2022, (10): 78-82. (in Chinese)
7. Palmer A W. 'An Act of War' : Inside America' s Silicon Blockade Against

China. (2023-07-12). https://www.nytimes.com/2023/07/12/magazine/semiconductor-chips-us-china.html.

8. Lee C. Winning the Tech Cold War. (2023-08-17). https://www.rand.org/pubs/commentary/2023/08/wi the-tech-cold-war.html.
9. Eurasia Group. The US-China Tech Cold War Is On. https://www.gzeromedia.com/living-beyond-borders-articles/us-china-tech-cold-war-is-on.
10. Wang W. On the strategic opportunity period in the new era: Origin, status quo and outlook. *Journal of the Central Institute of Socialism*, 2022, (4): 33-42. (in Chinese)
11. Allison G, Klyman K, Barbesino K, et al. *The Great Tech Rivalry: China VS the U.S.* Boston: Harvard Kennedy School, 2021.
12. Qin Z. Thoughts and suggestions on the task deployment of building a world science and technology power. *Scitech in China*, 2022, (10): 6-10. (in Chinese)
13. Wang W. Building an open innovation ecosystem in China: Origins of theories, current development and policy future. *Contemporary China and World*, 2023, (1): 58-66. (in Chinese)
14. Wang W, Liu Y S. China' s digital society: Evolution process, status evaluation, and future governance. *Academic Exploration*, 2020, (7): 48-61. (in Chinese)

Note: Figure translations are in progress. See original paper for figures.